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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|---------------------|------------------|
| 10/603,782 | 06/26/2003 | Etsuo Oogami | 040302-0327 | 4066 |
| 22428 | 7590 | 06/15/2006 | EXAMINER | |
| FOLEY AND LARDNER LLP | | | HODGE, ROBERT W | |
| SUITE 500 | | | ART UNIT | |
| 3000 K STREET NW | | | PAPER NUMBER | |
| WASHINGTON, DC 20007 | | | 1745 | |

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/603,782 | Applicant(s) OOGAMI, ETSUO | |
| | Examiner Robert Hodge | Art Unit 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1160895 hereinafter Hanafusa.

3. Hanafusa teaches a module battery comprising a battery pack comprising at least one battery cell having a power generating element sealed in a film and a pair of electrode tabs connected to the power generating element and a packing case that provides an opening for the electrode tabs, said case is comprised of case halves that sandwich the battery cell (abstract, paragraphs [0003]-[0007], [0014]-[0022], [0029]-[0044], [0050]-[0055], and [0061]-[0084]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 2-4, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of JP 2001-256934 hereinafter Osaka, JP-2001-114157 hereinafter Takahashi and U.S. 5,879,831 hereinafter Ovshinsky.

6. Hanafusa teaches everything in the above 102 rejection as well as having a space upstream wider than the other region of space due to the shape of the battery pack being thick in the middle and narrow on the ends.

7. Hanafusa does not explicitly teach the use of a packing case containing a plurality of the battery modules or any properties of the packing case.

8. Osaka teaches a packing case for accommodating a plurality of stacked battery packs that covers all of the openings of the packing cases, with space provided between the battery packs and a flange provided to align the packing cases that also provides the space between the battery packs (abstract).

9. Takahashi teaches a battery assembly that provides a waterproof structure for the battery box, which would also be air tight (abstract).

10. Ovshinsky teaches a battery pack that includes a plurality of packing cases provided therein that are spaced a part from each other to allow fluid to flow therethrough (abstract, column 3, line 24 – column 5, line 47, column 7, lines 36-60, column 9, line 21 – column 10, line 51, column 12, lines 1-3, column 13, line 46 – column 19, line 25).

11. At the time of the invention it would have been obvious to a person having ordinary skill in the art to include the teachings of the Osaka, Takahashi and Ovshinsky references in the Hanafusa reference in order to provide a superior battery pack that

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would properly position all of the battery packs properly in a the casing and provide proper spacing to allow for cooling of the battery packs, which would in turn extend the life of the battery cells by keeping them at their optimal operating temperature.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claims 2-4, 9 and 10 above, and further in view of U.S. 6,821,671 hereinafter Hinton.

13. Hanafusa, Osaka, Takahashi and Ovshinsky do not explicitly teach a cooling fin in the space.

14. Hinton teaches a battery pack for cooling battery cells that includes a cooling fin provided in hollow spaces (figure 4, column 4, lines 30-38).

15. At the time of the invention it would have been obvious to include the teaching of the Hinton reference in the Hanafusa reference in order to provide another well-known means for maintaining the battery cells as their optimal operating temperature.

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claims 2-4, 9 and 10 above, and further in view of U.S. 5,688,615 hereinafter Mrotek.

17. Hanafusa, Osaka, Takahashi and Ovshinsky do not explicitly teach a locate pin for aligning the battery cell.

18. Mrotek teaches a battery cell provided within a housing that utilizes an alignment pin, to line up the battery cell within the housing (figure 6, column 5, line 66 – column 6, line 37).

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19. At the time of the invention it would have been obvious to include the teaching of the Mrotek reference in the Hanafusa reference in order to provide a simplified means of assembling the battery cell within the housing thereby making sure everything is perfectly aligned before completing the assembly process.

20. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claims 2-4, 9 and 10 above, and further in view of U.S. 6,517,966 hereinafter Marukawa.

21. Hanafusa, Osaka, Takahashi and Ovshinsky do not explicitly teach that the halves of the case are symmetrical.

22. Marukawa teaches a battery pack case that is symmetrical with protrusion used for lining up the symmetrical halves (column 2, line 55 – column 3, line 3).

23. At the time of the invention it would have been obvious to include the teaching of the Marukawa reference in the Hanafusa reference in order to provide a simplified means of assembling the housing thereby making sure everything is perfectly aligned before completing the assembly process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

RWH 6-6-06